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Patent

ESSAY

ON THE

New Invented Circular MOTIONS,
now in great Use in JACK-
WORK and CLOCK-WORK.

Demonstrated,

By a New Invented Piece of *Jack-Work*,
made by ROBERT EVANS in *Mary-*
bone-Mews; who has ~~His~~ MAJESTY'S
Letters Patent for the sole making
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Printed for the Author. 1717.

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An Explanation of a New Invention of Jack-Work; and where the Benefit of the same is to serve the Publick, and to harm no Man; but on the contrary, it will not only serve the People that are to buy, but Abundance of Workmen will be Employ'd, and brought into a better Frame of Working, and Knowledge of Business to Ages to come, for which his Majesty hath been graciously pleased to grant his Letters Patent to make the same.

I.  F many Years before my Time or Remembrance, Multiplying Jacks have been made and used by good

B 2 Work-

Work-men; and I my self have made and sold a great many to my Customers in the space of Fifteen Years: But no Man gave himself the Trouble of Inquiry into the true Meaning of the Working part of a *Jack*, which Instrument ought to be made the best and truest in all its Members; for Meat ought to be spitted Even and Level; and some that can do it very well, oftentimes trust to others; so a *Jack* ought to have no Fault in itself, because there comes Obstructions enough that way; and if there are several Faults in the *Jack*, and all those Faults meet together, which they do very often, then the Meat stands and burns; besides several Troubles and Disappointments, that happen to the Family on that Occasion.

II.

II. I come to shew the Reasons of the great Imperfections in *Jack-Work*. To begin first with the *Jack-Block*, which is of a Medium Size, Five Inches over, and Six Inches between the Back Plate and Fore Plate, or of any other Size whatever, is lyable to the same Misfortune, one as the other, in Proportion of Time and Size, whether it is a Multiplying *Jack*, or go only in Pulleys, or a Pull up *Jack*; and in particular, a Multiplying *Jack*, with an Advantage Wheel, has a very great Imperfection, which is the Tedioufness of the Winding of it up, it taking near Eight Hundred Turns to wind up a *Jack*; that is to go Three Hours.

Now

Now since all Sorts of *Jacks* that ever were made, lie under this great Imperfection, I thought it highly worth my while to bestow some Time and Cost, which indeed I have, and brought ev'ry Thing to bear very well, as you will presently understand.

Then First I begin with the *Jack-Block*, that I mention'd before, of Five Inches by Six; we will suppose the small Line to be an Hundred Yards long, but oftentimes more, when the *Jack* is quite down, and the *Block* but Five Inches over, it winds very pleasant and easy for a short Time, but as the Turns of Line fills the *Block*, and makes it bigger, it still grows heavier upon the

the Hand Wrist in the winding up, and the farther it goes up, it still grows heavier and heavier; But when the Line is all wound up, we may safely say, that the *Block* is as big again, and makes the Arm tir'd, before it is half wound up; for that very Reason the Multiplying *Jacks* are very seldom wound up half Way.

But there is another Evil that attends this small Line; when the *Block* is full of Line, the *Jack* goes with a great Strength, and seems to turn the Meat very well: In the going down the *Jack* slackens its Motions, because the *Block* grows lesser every turn of Line, as it goes off the *Block*, but it does not only decline in
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the *Block*, but that Line that comes off the *Jack-Block*, goes upon the Multiplying Wheel, and makes that Wheel bigger, being filled with the Line; and that makes the Power a great deal the weaker still.

But there is another Misfortune attends the *Jack*, not yet mentioned, and much like the rest. Namely, the *Block* or the *Barrel* of the Multiplying Wheel, when the *Jack* is up, the great Line is very often in a great Ruck upon the *Barrel*: But suppose that Line was wound Turn by Turn, yet notwithstanding the said *Barrel* will have a Friction by the often Turns of Line one over the other; and the Reason of that is by the shortness of the *Block*,

Block, and as the *Jack* comes down, it declines and grows weaker all the way down, just as the other Part I mention'd before; and you may very easily conceive, that the winding up is harder and harder, as the Line winds upon that *Barrel* as before mention'd, as well as the other *Barrel*.

Thus I have plainly describ'd and discover'd the many Imperfections, that are in the very best of *Jacks* now made: And as I have describ'd other Mens Works, I do not pretend to condemn them in particular, but my own Work likewise. Now it lies upon me to shew what better Improvements I have made in *Jack-Work*.

I will begin first with the *Jack-Block* and the *Multiplying-Wheel*; I make both of them with *Coggs* or *Stubbs* equally divided, and a *Chain* with round and long Links; The *Chain* I call my *Endless Chain*, or my *Circular Multiplying Motions*, which go round the *Jack-Block*, and round the *Multiplying-Wheel*; so it goes with a constant Motion upon both, and never has but half a Turn upon either, instead of a small Multiplying Line; so neither the *Block* nor the *Wheel* is upon that Uncertainty, as the Line tormented their Motions in other *Jacks*, by making of them sometimes big, and at other times small, so there was no manner of Certainty in their going: But the *Chain* keeps them always of
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one Strength, and of a constant Motion; Besides this *Chain* does not lie under that Misfortune, that the small *Line* did, which was sometimes cut, sometimes burn'd, and sometimes out of the *Wheel*, or the Guide *Pullies*; so this *Chain* is free from all these Misfortunes; besides, it saves a great Expence, which was very often laid out for small *Lines*, and it will serve as long as the *Jack* holds: Thus I have made good, and perfectly cur'd what I spoke of concerning the *Black*, and the *Wheel*, and the small *Line*.

Now I am going to describe the *Barrel* of the *Multiplying-Wheel*, where the great *Multiplying Line* goes on; this *Barrel*

being made Two Foot Four Inches long, containing in Line Forty Yards, to make but one Covering of Line over the *Barrel*, which will make Seventy Turns; and I have contriv'd another Line, which is not common, and contains in Length above Sixty Yards, which will make One Hundred and Ten Turns, and will gain One Hour in Three at once winding up, more than the old Lines now commonly used.

The Question may be reasonably as'kd, how can a Line be deliver'd upon a *Block* of that Length, Line by Line, without lapping on each other? It is answer'd thus, That my excellent
new

new invented Guide *Pully* performs it, let the *Barrel* be never so long, which is plainly to be seen by all People, that have a Mind to be satisfy'd.

Having truly describ'd my *Barrel*, I am now come to tell you, That if this *Jack* was to go from Three Hours to Six, less or more, the Strength upon the *Jack* and the *Multiplying Wheel* is always the same; and the winding up is always the same Ease, let the *Jack* go never so long.

But I find another Imperfection in this *Multiplying Jack*, which was highly necessary to be rectify'd; and as I have mentioned before, that Eight Hundred Turns with the Hand-Wrist being
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so very tedious and tiresome, that the *Jack* is very seldom wound up for that very Reason; so Quality and others were put to a very great Expence with Multiplying *Jacks* to no Purpose: Now to prevent this Imperfection, I have contriv'd a Counter *Wheel* to the *Barrel* of the Multiplying *Wheel*, which draws it up at an Hundred and Ten Turns, which will go as long as the Eight Hundred Turns before mention'd upon the *Block* of the *Jack*; and there is another Benefit in it, That instead of one Hand to wind it up, they have both Hands to draw it up with a great deal of Ease.

I have likewise contriv'd that Excellent *Motion*, that causeth the
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the *Jack* to go all the Time of drawing or winding up, and turns the Meat the same way with a steady Motion, as fast as the *Weight* can force it, so the Cook need not fear the burning of the Meat, let the Person be never so negligent, or ever so long, that draws or winds it up.

This *Jack* has another very great Perfection belonging to it, which is, That if this *Jack* was to carry Six or Seven Spits at Dinner, what will become of this great Strength to carry a Couple of Pidgeons, or the like, for Supper? It is answer'd, thus, That I have made a Provision for that Purpose, that with moving of a small Pendant *Weight*
not

not exceeding a pound, will make the *Jack* go to any Degree the Cook pleases, even to make it stand still at his greatest Strength of going.

There is another Imperfection in the old Way of Working, and that is the long *Spindles*, which go through the Jamb or the Breast of the Chimneys: There are Three Evils, that attend those long *Spindles*, viz.

I. The Length from the Center to the *Stroke-Wheel*, causeth the *Jack* to labour almost under double Burden.

II. The Breaking through the Jamb or Breast of the Chimney as aforesaid, causeth both Smoak and

and Dust to come to the *Jack*, and dries the Oyl, besides clogging of it ; which causeth the *Jack* to stand still, as soon as any other of the before mention'd Imperfections ; and the same Smoke and Dust often prove very pernicious and troublesome in the Kitchen, altho' the Ghimney does not smoak at all.

III. These long *Spindles* are always very troublesome to the Cooks, by Reason when they draw their Spits back, the Chains always fall out of the *Wheels*, if the *Spindles* be through the Breast of the Chimney.

I am now come to make good what Improvements I have made

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in Relation to the long *Spindles*, viz. That by my new Way of Working, I have no Occasion of long *Spindles*, or to break thro' the Jamb or the Breast of the Chimney, let the Chimney be never so deep; and if the Cook has Occasion to put his Meat Two Yards or more back from the Fire, the *Chains* shall never go out of the *Wheels*; and likewise let the Grate be what Distance it will from the Mantle-piece, it answers the same.

There is another Inconveniency, that attends the old Work, and that is, the Work being all naked, it is expos'd to the Flight of the Dust and Smoak, &c. of the Kitchen.

In my new Way of Working, the whole Work is put into an Iron Case, which intirely covers the Work from Dust, Smoak, &c. as before mention'd, and is very easy to be put up, it fitting all Sorts of Chimnies, that any Workman may put them up in any Chimney whatsoever: Nevertheless, there will be a true Rule in Writing sent with the *Jack*, how to put it up, in any Country whatsoever, that is at such a Distance that I cannot see it done my self.

And as for any of my Customers, that I have had the Honour to serve; and of whom I have taken Money for *Jacks*, that I have sold to them made after the old Way of Working: If there

be any Grievance in any Family about any of the aforesaid *Jacks*, if they will come or send to me, I will treat as reasonably with them as they can desire, by Reason that I have taken their Money before.

There are none that have bought any of my new Invented *Jacks*, but are wonderfully well pleas'd with them ; and I my self knowing the Goodness of the Work, have no Doubt, but that they will meet with a general Applause by the Publick, and give intire Satisfaction to all that shall Buy or make Use of any of them.

Now after I have shew'd the Publick the Improvements that I have made in my new Way of Working ; there remains yet something

thing to be said of a very useful
 Ornament; the like has not been
 seen nor heard of in any Country
 before, that I have contriv'd to be
 annex'd to my *Jacks*, for those
 who will be at the Charge of it;
 (It being a Branch of my *Patent*;
 and will be but a small Charge,
 considering how useful it will be
 to any Family that has them)
 Which is a *Watch* Part, that shews
 the Hour of the Day, and never
 to be drawn or wound up; and
 I believe I may safely say, That
 this *Watch* Part will perform bet-
 ter, and more regular than any
 Turret-Clock, that is always ex-
 pos'd to the Weather, or stands
 at a Distance from the Fire, by
 Reason of Frosts, Fogs, and moist
 Air, which causeth the Oil to grow
 thick, and is a very great Detri-
 ment

ment to the going of Clocks, that are so Expos'd to the Weather, or any other Clock, that is at a Distance from the Fire. I shall

This *Watch* Part being plac'd by the Kitchen Chimney, it is not Expos'd to the Weather, and has the Benefit of the Fire in the Winter; and in the Summer it will have no Occasion of any Benefit from the Fire; and has the same Perfection in exchanging of his Weights, as the *Jack* has in its drawing of winding up; so that it does not lose one Beat or Second, more

I have likewise a Set of *Musical Chimes*, that discharge Three Sorts of Musical Tunes, in the Time of the *Jacks* going up and down; each Tune being play'd Three Times over

over. The said *Chimes* will be but a small Charge to any Person, who has a Mind to have them.

The *Patentee* gives Notice, That as he has been at a great Expence, he expects ready Money; and he will give any Person, that shall buy a *Jack* of him, a Warrant under his Hand and Seal to maintain the said *Jack* for Seven Years, they only paying for cleaning of it, and the great *Line* being expos'd to the relieving Damage by the Neglect of Servants or otherwise, which oftentimes happens to be cut, he does not warrant it to hold the said Seven Years: But if it receives no Damage, he is of Opinion it may hold the said Time

Now after I have endeavour'd to give the Publick Satisfaction of the great Improvements that I have made

made in my new way of Working, some may be of Opinion, That my Prices may be high: Therefore I do hereby give Notice, that as to Prices and Sizes of my new *Jacks*, they will be much about the Prices of the best *Jacks* that are now made of the old way of Working: Altho' they are imperfect.

N. B. These New Invented *Jacks* and *Watch-Work* are made and sold only by *Robert Evans* Patentee, at his House in *Marybone Mewes*; and all Persons, that have Occasion to Write to him, are desir'd to Direct for him to be left at the Sign of the *Fish and Bell* in *Charles Street* by *Soho-Square*, by Reason it will come safer, and a Day sooner to his Hands, than if it were Directed to his own House.

FINIS.

